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10/628,878

07/28/2003

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EXAMINER

CHEEMA, UMAR

ART UNIT

PAPER NUMBER

2144

MAIL DATE

DELIVERY MODE

08/06/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|----------------------------------|--|
| Office Action Summary | Application No. 10/628,878 | Applicant(s) HENG, ZHI | |
| | Examiner UMAR CHEEMA | Art Unit 2144 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This action is in response to the Request for Continued Examination (RCE) field on 06/16/2008. Claims 1-6 and 8-12 are now pending and claim 7 has been cancelled.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/16/2008 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 1-6 and 8-12 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 1-6 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ciscen et al (Ciscen) (US PGPUB 2002/0004827) in further view of Srivastava (US 6,684,331).

Regarding claim 1, Ciscen substantially discloses the invention as claimed a multi-layer user management (see title, abstract, par. 0003) method for multicasting proxy, comprising: dividing a user management for multicasting groups into three layers (see abstract, par. 0003): management at an interface layer for controlling multicasting characteristics corresponding to interfaces (see abstract, par. 0014), management at a data link layer (fig. 2 (224) and the details related) for controlling multicasting characteristics corresponding to data links, and management at user layer (see abstract, fig 1 and the details related), for controlling multicasting characteristics corresponding to particular users, and at each layer, setting control blocks that respectively comprise multicasting characteristic data corresponding to said each layer (see abstract, par. 0003, 0013, 0014); establishing a data relationship among the three layers of control blocks (see par. 0073, fig. 4 and the details related); and managing a user of a groups of the multicasting groups using the data relationship among the three layers of control blocks (see abstract, fig. 3-4 and the details related) wherein said managing the user of the multicasting group is managing joining or leaving the

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multicasting group of the user; comprising the steps of: finding a first interface layer control block according to a data structure of an interface of net (IFNET) having received a multicasting packet (see par. 0056); then judging multicasting characteristics of the multicasting group which are defined in the found interface layer control block to determine whether to continue successive processing; if so, performing the next steps, otherwise ending (see par. 0072-0073); finding a first data link layer control block according to a data relationship between data link layer control blocks and the first interface layer control block (see par. 0037-0040); then judging multicasting characteristics corresponding to data links of the multicasting packet to determine whether to continue successive processing; if so, performing the next step, otherwise ending (see par. 0072-0073); and finding a first user layer control block according to a multicasting group IP and user attributes; then adding, deleting or modifying corresponding user information in the first user layer control block (see par. 0039, par. 0085).

Ciscon substantially discloses the invention for the given reason above however does not explicitly disclose wherein said management system including multicasting proxy in his disclosure and managing the user of the multicasting group is managing joining or leaving the multicasting group of the user. However in the same field of endeavor, Srivastava discloses multicasting proxy in his invention (see abstract, col. 5, lines 1-10; multicast proxy service node) and managing the user of the multicasting group is managing joining or leaving the multicasting group of the user (see col. 7, lines 4-37).

It would have been obvious to one of ordinary skill person in the art of networking at the time of the invention to combine the teaching of Ciscon and Srivastava for multi-layer user management system for multicasting server proxy. Motivation for doing so would have been the proxy server is designed to provide extensible firewall and network security (see Srivastava: col. 2, lines 55-57).

Regarding claim 2, Ciscon discloses the method of Claim 1, wherein said controlling multicasting characteristics corresponding to interfaces includes (see par. 0014): judging whether to allow multicasting applications at an interface, judging whether to allow multicasting applications at a user side or a network side, judging whether to allow tying multicasting resources or multicasting groups, limiting the number of members of a multicasting group or limiting the number of multicasting groups (see par. 0026,0085, fig. 4). (Note: Ciscon et al introduce the Network Controller which may use MPLS to a network layer or any other OSI (seven layer model) layer for controlling, determining, and managing data packets for multicasting (par. 0085)).

Regarding claim 3, Ciscon discloses the method of Claim 1, wherein said controlling multicasting characteristics corresponding to data links is operable to limit the number of members of a multicasting group when employing a core layer network device (see par. 0039, 0040).

Regarding claim 4, Ciscon discloses the method of Claim 1, wherein said controlling multicasting characteristics corresponding to data links is forwarding only one multicasting packet for all members of the same multicasting group at the same data link when forwarding data (see par. 0036, par. 0038).

Regarding claim 5, Ciscon discloses the method of Claim 1, wherein the data relationship is established through a linking-list structure or a relational database structure (see par. 0036).

Regarding claim 6, Ciscon discloses the method of Claim 1, wherein the data relationship is established through a three-dimensional linking-list data structure which links each control block with linking-lists or arrays; the three dimensions of the three-dimensional linking-list data structure comprise data link including interface, multicasting group and user IP (see par. 0038, 0039, 0040).

Regarding claim 7, (Cancelled).

Regarding claim 8, Ciscon discloses the method of Claim 1, further comprising: if no proper data link control block is found when finding a first data link control block, adding a new data link layer control block (see par. 0037, 0085); and establishing a data relationship among interface layer control blocks, user layer control blocks and the new data link layer control block (see par. 0085).

Regarding claim 9, Cisco discloses the method of Claim 1, wherein said managing the users of the multicasting group is forwarding control, further comprising: making data link layer devices attend multicasting management with device cluster control technique (see Cisco: par. 0056, fig. 4).

Regarding claim 10, Cisco discloses the method of Claim 1, wherein said managing the user of the multicasting group is performing flow charging control to the user of the multicasting group; and said performing flow charging control to the user of the multicasting group (see abstract, figure 3) comprises: recording the flow of multicasting packets having been forwarded with a device forwarding program and charging the user when the user receives the multicasting packets (see par. 0030, 0034).

Regarding claim 11, Cisco discloses the method of claim 3, wherein the core edge layer network device is an Edge Service Router (ESR) (see par. 0039-0041).

Regarding claim 12, Cisco substantially discloses the invention as claimed a multi-layer user management (see title, abstract, par. 0003) method for multicasting proxy, comprising: dividing a user management for a multicasting group into an interface layer management, a data link layer management, and an user layer management (see abstract, par. 0003), controlling multicasting characteristics corresponding to multicast interfaces via the interface layer management (see abstract, par. 0014), controlling

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multicasting characteristics corresponding to data links via the data link layer management (see abstract, fig. 1, fig. 2(224) and the related details), and controlling multicasting characteristics corresponding to users via the user layer management, providing a control block that is for and that has multicasting characteristic data corresponding to each of the interface layer management, the data link layer management, and the user layer management (see abstract, par. 0003, 0013-0015); establishing a data relationship among the control blocks (see par. 0073, figure 4 and the details related); and managing a user of the multicasting group by using the data relationship (see abstract, figures 3-4 and the details related); wherein said managing the user of the multicasting group is managing joining or leaving the multicasting group of the user; comprising the steps of: finding a first interface layer control block according to a data structure of an interface of net (IFNET) having received a multicasting packet (see par. 0056); then judging multicasting characteristics of the multicasting group which are defined in the found interface layer control block to determine whether to continue successive processing; if so, performing the next steps, otherwise ending (see par. 0072-0073); finding a first data link layer control block according to a data relationship between data link layer control blocks and the first interface layer control block (see par. 0037-0040); then judging multicasting characteristics corresponding to data links of the multicasting packet to determine whether to continue successive processing; if so, performing the next step, otherwise ending (see par. 0072-0073); and finding a first user layer control block according to a multicasting group IP and user

attributes; then adding, deleting or modifying corresponding user information in the first user layer control block (see par. 0039, par. 0085).

Ciscon substantially discloses the invention for the given reason above however does not explicitly disclose wherein said management system including multicasting proxy in his disclosure and managing the user of the multicasting group is managing joining or leaving the multicasting group of the user. However in the same field of endeavor, Srivastava discloses multicasting proxy in his invention (see abstract, col. 5, lines 1-10; multicast proxy service node) and managing the user of the multicasting group is managing joining or leaving the multicasting group of the user (see col. 7, lines 4-37).

It would have been obvious to one of ordinary skill person in the art of networking at the time of the invention to combine the teaching of Ciscon and Srivastava for multi-layer user management system for multicasting server proxy. Motivation for doing so would have been the proxy server is designed to provide extensible firewall and network security (see Srivastava: col. 2, lines 55-57).

Response to Arguments

3. Applicant's arguments filed on 16 June 2008 and substantially similar to the arguments field on 05 November 2007 and have been fully considered but they are not persuasive. However, because there exists the likelihood of future presentation of this argument, the Examiner thinks that it is prudent to address applicant's main point of contention. Applicant's arguments include:

A. Regarding to Independent Claim 1, 12 and all of the dependent claims

Applicant argues:

1. Although both Claim 1 and Ciskon mention the “multi-layers” concept and the “multi-layer management” concept, the specific meaning of these concepts in claim 1 and Ciskon are different.”

3. “Ciskon and Srivastave fail to teach or suggest each and every limitations of Independent claims 1, 12 and the dependent claims 2-11”.

As for Point A, it is Examiners position as discussed above in detail action that Ciskon and Srivastave are in same field of invention as teach or suggest each and every limitation of the claims as shown in detail action above. Thus it is the Examiners position that 35 U.S.C 103 (a) rejection is proper.

Examiner’s Note: Examiner has cited particular paragraphs, figures, columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see the form PTO-892 (Notice of Cited References) for a list of more relevant prior arts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to UMAR CHEEMA whose telephone number is (571)270-3037. The examiner can normally be reached on M-F 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Jr. Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Uc
/William C. Vaughn, Jr./
Supervisory Patent Examiner, Art Unit 2144